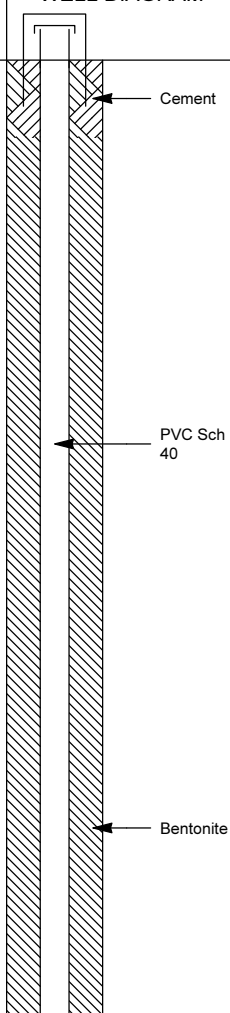
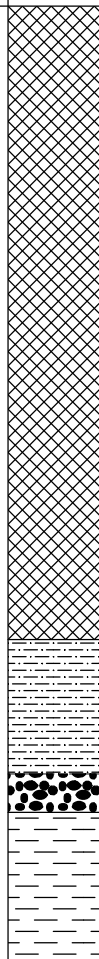


## MONITORING WELL COMPLETION LOG GRN01-0181

<b>PROJECT</b>	UMTRA GROUND WATER	<b>NORTH COORD. (FT)</b>	238075.43	<b>DATE DRILLED</b>	06/13/2002 to 06/19/2002
<b>LOCATION</b>	GREEN RIVER, UT	<b>EAST COORD. (FT)</b>	2387359.16	<b>SURFACE ELEV. ( FT NGVD)</b>	4138.90
<b>SITE</b>	GREEN RIVER	<b>HOLE DEPTH (FT)</b>	96.00	<b>TOP OF CASING (FT)</b>	4141.10
<b>WELL NUMBER</b>	0181	<b>WELL DEPTH (FT)</b>	92.00	<b>MEAS. PT. ELEV. (FT)</b>	4141.10
				<b>SLOT SIZE (IN)</b>	0.020
				<b>BIT SIZE(S) (IN)</b>	8.0
		<b>WELL INSTALLATION</b>	<b>INTERVAL (FT)</b>		
<b>SURFACE CASING:</b>				<b>DRILLING METHOD</b>	ROTASONIC
<b>BLANK CASING:</b>	4 in. PVC Sch 40	-2.2	to 77.0	<b>SAMPLING METHOD</b>	ROTASONIC CORE
<b>WELL SCREEN:</b>	4 in. 0.02 Slotted PVC	77.0	to 92.0	<b>DATE DEVELOPED</b>	06/20/2002
<b>SUMP/END CAP:</b>				<b>WATER LEVEL (FT BTOC)</b>	60.0 on 06/20/2002
<b>SURFACE SEAL:</b>	Cement	0.0	to 2.0	<b>LOGGED BY</b>	Goodknight, C.
<b>GROUT:</b>	Bentonite	2.0	to 69.0	<b>REMARKS</b>	Centralizers at 92.0 ft. and 40.0 ft.
<b>SEAL:</b>	Bentonite Pellets	69.0	to 74.0		
<b>UPPER PACK:</b>	20-40 Silica Sand	74.0	to 75.0		
<b>LOWER PACK:</b>	10-20 Silica Sand	75.0	to 92.0		

DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
							<p>0-16.5 ft. FILL: coarse sand, calcareous, contains pebbles and cobbles, light gray (10YR 7/2).</p> <p>@12.0 ft. material contains coarse cobbles (up to 4.0" in diameter)</p> <p>@13.5 ft. and 14.5 ft. are pink layers.</p> <p>16.5-21.0 ft. DAKOTA SANDSTONE: SILTSTONE; yellowish gray (5Y 7/2) to silty mudstone, light olive gray (5Y 6/1), noncalcareous, Fe-stained.</p> <p>20.0-21.0 ft. CONGLOMERATIC SANDSTONE; pebbles up to 1.0" in diameter, well cemented, some carbonaceous material and stems. Vertical fractures, mainly yellowish gray (5Y 7/2). Limonite and hematite stain.</p> <p>21.0-96.0 ft. CEDAR MOUNTAIN FORMATION: 21.0-79.0 ft. CLAYSTONE/SHALE; medium light gray N6, soft. Hematite stain-dark yellowish orange (10YR 6/6), scattered white blebs of gypsum crystals. Less hematite stain below 23.0 ft. and more limonitic stain- grayish yellow (5Y 8/4).</p>

*Stoller-GJO*

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# MONITORING WELL COMPLETION LOG GRN01-0181

<b>PROJECT</b> <u>UMTRA GROUND WATER</u>	<b>WELL NUMBER</b> <u>0181</u>
<b>SITE</b> <u>GREEN RIVER</u>	<b>DATES DRILLED</b> <u>06/13/2002 to 06/19/2002</u>

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
30	4110						27.0-30.0 ft. thin limonitic siltstone beds scattered through shale/claystone, noncalcareous. Beds are mostly siltstone, yellowish gray (5Y 7/2).
							@31.0 layer of gray concretions with pyrite blebs.
35	4105						32.5-41.0 ft. mainly greenish gray (5G 6/1) claystone and shale, noncalcareous to calcareous, trace of pyrite blebs in more resistant thin beds from 35.0 to 38.0 ft., and trace of gypsum and limonite.
					← Bentonite		
40	4100						39-41.0 ft. becoming more sandy.
							41.0-42.0 ft. hard siliceous nodules, fractured, with limonitic stain, trace calcite.
							42.0-45.0 ft. mostly greenish gray shale and claystone (5G 6/1).
45	4095						45.0-47.0 ft. calcareous nodules, trace of pyrite blebs @ 45.0 ft. Calcareous siltstone layer with trace of small pyrite blebs, light gray (N7) to medium light gray (N6).
					← PVC Sch 40		47.0-50.0 ft. mostly shale and claystone, dark greenish gray (5GY 4/1).
50	4090						50.0-51.0 ft. Layer of calcareous siltstone nodules, light gray (N7).
							51.0-53.0 ft. sandy layer (poor recovery), mostly coarse grained sand, some limonite.
							53.0-54.0 ft. hard medium bluish gray (5B 5/1) layer of shale.
55	4085						54.0-58.0 ft. mostly shale/claystone, soft, dark greenish gray (5GY 4/1), slightly calcareous.

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<b>SITE</b> <u>GREEN RIVER</u>	<b>DATES DRILLED</b> <u>06/13/2002 to 06/19/2002</u>

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
60	4080				<p style="text-align: center;">Bentonite Pellets</p> <p style="text-align: center;">20-40 Silica Sand</p> <p style="text-align: center;">PVC Sch 40</p> <p style="text-align: center;">10-20 Silica Sand</p> <p style="text-align: center;">0.020" Slotted PVC</p>		58.0-59.0 ft. layer of calcareous nodules, greenish gray (5G 6/1). 59.0-60 ft. hard calcareous layer, greenish gray (5G 6/1), with some pyrite blebs. 60.0-62.0 ft. calcareous shale, moderately soft, medium gray (N5).
65	4075						62.0-69.0 ft. alternating beds of calcareous siltstone, trace of pyrite, light gray (N7), and gray shale/claystone.
							65.0-67.0 ft. hard calcareous siltstone, light gray (N7) to medium light gray (N6), trace of pyrite, nodular appearance.
							67.0-69.0 ft. soft gray shale.
70	4070						69.0-79.0 ft. hard light gray (N7), siltstone, little to no porosity, pyrite along fractures, some near-vertical healed fractures. Some horizontal fracturing @75.0 ft. and fracturing/porosity along crossbeds.
75	4065						
80	4060						79.0-91.5 ft. SANDSTONE; gradual coarsening from siltstone to fine grained sandstone from 79.0-81.0 ft., calcareous, finely disseminated pyrite, light gray (N7).
85	4055						87.0-87.5 ft. some crossbedding and coarsening at base to coarse grained sandstone and conglomerate (up to 1/2" diameter clasts). 87.5-90.0 ft. SHALE and SILTSTONE; calcareous, medium light

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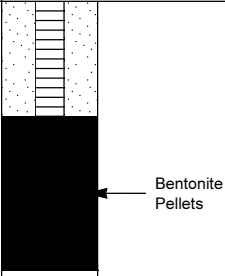
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<b>PROJECT</b> <u>UMTRA GROUND WATER</u>	<b>WELL NUMBER</b> <u>0181</u>
<b>SITE</b> <u>GREEN RIVER</u>	<b>DATES DRILLED</b> <u>06/13/2002 to 06/19/2002</u>

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
90							gray (N6).
							90.0-91.5 ft. medium to coarse grained sandstone, crossbedded, calcareous, greenish clay clasts (up to 1.0").
							91.5-94.0 ft. SHALE; greenish gray (5G 6/1), and claystone, slightly calcareous.
95	4045						94.0-95.0 ft. SILTSTONE; nodular, limey, medium light gray (N6), slight moderate calcareous, trace of pyrite.
							95.0-96.0 ft. SHALE and CLAYSTONE; slightly calcareous, medium gray (N5).
							Total Depth 96.0 ft.
4040							
100							
4035							
105							
4030							
110							
4025							
115							
4020							
120							